

on the shore or held in the parent through the winter to be released into the water during the following spring flood of May.

This data concerning the *Pisidia* colony is presented here with Baker's (1928) statement in mind, "There is much need for more accurate data on the ecology of these small clams [Sphaeriidae] as well as upon their age, reproduction, and general habits."

I wish to thank Dr. Stanley Truman Brooks, Curator, Invertebrate Zoology, of the Carnegie Museum in Pittsburgh, Pennsylvania, for identifying the *Pisidium* discussed here. Gratitude is also extended to members of the Biological Board and to the Preserve officers of the Edmund Niles Huyek Preserve.

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DAYLIGHT ACTIVITY OF LAND MOLLUSKS

BY WILLIAM MARCUS INGRAM

The following observations were made between June 15 and September 1, 1940, on the Edmund Niles Huyek Preserve, Rensselaerville, Albany County, New York. The preserve is a tract of land of some 500 acres situated in the Helderberg Mountains, the altitude varying approximately from 1500 to 1750 feet. The climax forest is beech-hemlock.

TABLE 1
Daylight activity of land snails

Snail Species	Total Active	Daylight Hours											
		7	8	9	10	11	12	1	2	3	4	5	6
<i>Triodopsis albolabris</i>	146	11	10	19	25	16	3	1	8	10	24	16	3
<i>Triodopsis dentifera</i>	38	1		1	8	14			1	2	4	4	3
<i>Triodopsis tridentata</i>	6								2		4	4	
<i>Anguispira alternata</i>	21		3	2		4	6				6		
<i>Zonitoides arboreus</i>	24			2	1	9	2			10	2		1
<i>Ventridens incertus</i>	15			2	4	5	3				2		
<i>Haplotrema conearum</i>	5					2			3				
<i>Mesomphix cupreus</i>	30	1		1	2	10					5	8	1
<i>Succinea retusa</i>	27				12	6				4	2	1	1
<i>Stenotrema fraternum</i>	1											1	
<i>Philomyeus carolinianus</i>	44	1		1	2	3	2		8	8	2	1	16
Grand total active	357	14	13	26	54	69	16	1	22	34	51	32	25

During the summer's collecting an attempt was made to note the daylight activity of the more common mollusks of the preserve during the hours of from 7 A.M. to 6 P.M. Activity data for 357 snails representing 11 species are included (table 1). The species represented are: *Triodopsis albolabris* (Say), *T. dentifera* (Binney), *T. tridentata* (Say), *Anguispira alternata* (Say), *Zonitoides arboreus* (Say), *Haplotrema concavum* (Say), *Mesomphix cupreus* (Rafinesque), *Succinea retusa* (Lea), *Ventridens intertextus* (Binney), *Stenotrema fraternum* (Say), and *Philomycus carolinianus* (Bosc.).

These data are not presented with the idea of showing that snails are typically diurnal in their habits, but principally to indicate that snail activity for the species listed does not cease during daylight hours. The recorded data only concern snails crawling in the open on top of the forest floor humus or in logs; no snails are listed here that were taken moving beneath logs or humus. In addition to the 357 snails which were crawling actively on the forest floor 235 were found crawling beneath humus, beneath logs, or in hollow logs and trees between the hours of 7 A.M. and 6 P.M. These of course were active under conditions approximating darkness. No data were gathered after rainy periods when snails are known to be actively about during daylight hours. The lack of data for the one o'clock hour (table 1) is due to the writer's absence from the field.

The data presented in table 1 indicate that snails are actively about during the daylight hours, and that many of these species are not generally as secretive in their habits during the day as has been supposed. These findings are not in accord with those of Binney (1885) who indicates that snails are definitely nocturnal in their habits. Binney (1885), speaking of American land mollusks as a group, states, "They seldom come from their lurking places while the sun shines, and indeed are never seen ranging in the daytime unless the day be damp and dark. Should they then be surprised by the appearance of the sun, they immediately take shelter from its rays under some cover or on the shaded side of the trunks of trees." Simpson (1901) in his study on *Triodopsis albolabris* states in regard to the activity of this snail, "They remain concealed through the day when the sun

is shining, coming forth for their food toward evening and after showers."

The majority of the snails included in table 1 were observed in the Beech-Hemlock association; a minority were observed in Beech-Maple, pure Maple, and Oak-Maple tree associations. In each tree association area there was a good overhang so that direct penetration of the sun's rays to the forest floor on which the snails were moving was somewhat blocked, but the overhang was by no means dense enough to make the areas dark.

Several of the active snails were observed feeding exposed to direct rays of the sun in open areas of forest. One *Philomycus carolinianus* was found feeding on an unidentified white mushroom at 2:35 P.M. It browsed on the head and stalk of the mushroom during a 20 minute observation period. Another *P. carolinianus* was observed at 2:55 P.M. exposed to the sun feeding on a mushroom. In this instance the slug was stretched out on top of the mushroom; it was active in its exposed position for 15 minutes. It then moved beneath the head of the mushroom and ceased its feeding activity. A young *Triodopsis albolabris* was likewise found partaking of food exposed to the sun at 10:00 A.M.

Gratitude is expressed to members of the Biological Board and to the Preserve officers of the Edmund Niles Huyck Preserve.

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AN HERMAPHRODITIC MYTILUS

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While hermaphroditism is of common occurrence among mol-

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